

REMARKS/ARGUMENTS

Status of Claims

Claims 1 to 31 are currently pending in the application.

Applicant gratefully acknowledges the Examiner's indication that claims 12, 13 and 27 would be allowable if rewritten in independent form including all of the limitations of base claims and intervening claims. Applicant has rewritten the claims objected to by the Examiner in independent form.

Amendments to Claims

Claim 12 has been amended to incorporate the subject matter of claim 1.

Claim 27 has been amended to incorporate the subject matter of claim 20.

35 U.S.C. § 103 Rejections

The law on obviousness under 35 U.S.C. 103 was recently addressed in *KSR Int'l v. Teleflex, Inc.*, No. 04-1350, slip op. at 14 (U.S., Apr. 30, 2007). Following this, examination guidelines were released by the USPTO on October 10, 2007 in regards to determining obviousness under 35 U.S.C. 103. According to these guidelines, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.* 383 U.S. 1,148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

The Graham factors, including secondary considerations when present, are the controlling inquiries in any obviousness analysis. Once the findings of fact are articulated, Office personnel

must provide an explanation to support an obviousness rejection under 35 U.S.C. 103. According to KSR, for the Patent Office to properly combine references in support of an obviousness rejection, the Patent Office must identify a reason why a person of ordinary skill in the art would have sought to combine the respective teachings of the applied references.

Applicant's analysis below demonstrates that the Examiner has failed to properly conform to the aforementioned guidelines for a finding of obviousness under 35 U.S.C. 103.

The Examiner has rejected claims 1 to 4, 6 to 11, 14 to 26 and 28 to 31 under 35 U.S.C. 103(a) as being unpatentable over Kogan et al. "Draft Technical Requirements on Outage Measurement Requirements for Packet Network" in view of Purpura (US Patent Application Publication 2003/0039261).

Claim 1

Ascertaining the differences between the claimed invention and the prior art

The following is a discussion of how the cited references do not disclose all the elements of the rejected claim. While it may be considered that "the mere existence of differences between prior art and an invention does not establish the invention's non-obviousness", Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one skilled in the art (Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, published in Federal Register Vol. 72, No. 195 October 10, 2007). As such, if elements from a claim are not disclosed by the combination of cited references and no valid reasoning is provided why the missing elements would be obvious, this may provide a strong basis for why a claim should not be rejected based on obviousness.

With respect to claim 1, the Examiner alleges that Kogan et al. discloses "A dependability measurement system comprising; performance measurement ... for measuring performance parameters ... in a communications network at sufficient frequency to detect service-affecting failures and time-of-occurrence" in the form of an outage event reported to the Network Management System (NMS) in Figure 1 of Kogan et al. by outage data being sent from

the “Element” to the “Network Management System” (NMS) and page 9, lines 23 to 27, page 8 lines 24 to 26 and page 7 lines 13 to 16. The Examiner concedes that Kogan et al. does not disclose measuring performance parameters between a first location and a second location, but alleges that this limitation is disclosed in paragraph [0021] of Purpura.

Applicant submits that at paragraph [0021], Purpura discloses a router communicating with ground equipment to receive the Internet Services and to transmit requests for Internet services from the Connection Sharing Computer and the network devices. The communications between the router and the ground equipment generally comprise routing and forwarding, IP multicast forwarding, traffic control, point to point protocol over Ethernet (PPPoE) access server, network address translation (NAT), and network time protocol (NTP). Purpura does not explicitly disclose measuring performance parameters between the router and ground equipment. Therefore, even if one were to consider the router and ground equipment as a first location and a second location, Purpura can not disclose the more general limitation of “measuring performance parameters between a first location and a second location in a communications network”, as recited in claim 1, because Purpura does not disclose any manner of “measuring performance parameters”. As the Examiner relies upon Purpura to disclose this limitation, and there is no evidence that Purpura does disclose this limitation, Applicant submits that not all of the references are disclosed by the combination of references.

In the “Response to Arguments” section on page 21 of the Office Action, the Examiner notes that the features upon which Applicant relies (i.e. page 4, line 5 of the previous response, measuring performance parameters between the router and ground equipment”) are not recited in the rejected claims. As has been clarified in the paragraph above, Applicant was not proposing that “measuring performance parameters between the router and ground equipment” was something that the present invention discloses that is not disclosed by Purpura, Applicant was intending to show that Purpura does not disclose “measuring performance parameters between the router and ground equipment” and hence Purpura cannot disclose “measuring performance parameters between a first location and a second location in a communications network”, which is recited in claim 1.

The Examiner equates “service-affecting event computation means for analyzing performance parameters measured by the performance measurement means” as recited in claim 1 of the present application with measuring and collecting data in order to be able to report and store outage events as described on page 7 of Kogan et al. and illustrated in the “Element” of Figure 1. Applicant submits that as Kogan et al., or the combination of Kogan et al. and Purpura, does not disclose performance measurement means for at least the reasons discussed above, Kogan et al., or the combination of Kogan et al. and Purpura, cannot disclose analyzing the performance parameters measured by the performance measurement means.

The Examiner equates “population calculator means for determining components within the communications network which are related to dependability metrics to be reported upon and calculating in-service time information for the components” as recited in claim 1 of the present application with the description at page 7, lines 6 to 11 of Kogan et al. and illustrated in the “Element” of Figure 1. Applicant submits that there is no indication or specific disclosure in Kogan et al. of “determining components within the communications network which are related to dependability metrics to be reported upon” (emphasis added). Even if Kogan et al. discloses “population calculator means for ... calculating in-service time information for the components”, which Applicant does not concede, Applicant submits there is no indication of the remainder of the limitation of the claim being disclosed in Kogan et al.

In the “Response to Arguments” section on page 21 of the Office Action, the Examiner disagrees with the Examiner’s arguments presented above. The Examiner alleges that outage monitoring and reporting is presented in Fig. 1 of Kogan et al. and page 7, lines 1 to 16. Applicant respectfully submits that what the particular limitation of the claim is reciting is more than just outage monitoring and reporting. The limitation in question recites “determining components within the communications network which are related to dependability metrics to be reported upon”. Applicant submits that the manner in which the limitation would be interpreted is that a determination is made of which components in the network have dependability metrics associated with them that would be reported upon. Using this information, not all components in the network would need to be monitored, which may reduce bandwidth needed in the monitoring and reporting status of the components. Such a scenario is clearly supported in the claim when the particular limitation in question is considered in view of the claim as a whole, specifically

“population calculator means for determining components within the communications network which are related to dependability metrics to be reported upon and calculating in-service time information for the components; dependability metric calculator means for calculating, analyzing and reporting dependability parameters and dependability metrics using information output from the service-affecting event computation means, equipment event measurement means and population calculator means” (emphasis added). Therefore, Applicant respectfully submits that Kogan et al. does not disclose the limitation in question, as alleged by the Examiner.

The Examiner equates “a user interface for supplying the dependability measurement system with system parameters and control information” as recited in claim 1 of the present application with the “Measurement Interface” illustrated in Figure 1 of Kogan et al. Kogan et al. states on page 5, “The interactions between the measuring element and the EMS/NMS are through two interfaces, one being an SNMP MIB or flat text file for outage data and the other a control interface for configuration and management commands”. Applicant submits that what Kogan et al. is describing for communication between the Element and the NMS is a “protocol” interface and not a “physical interface”, as it would be understood by one skilled in the art from a reading of the description of the present application, in particular page 8, lines 2 to 5 and block 17 of Figure 1. There is no direct disclosure in Figure 1 of “a user interface for supplying the dependability measurement system with system parameters and control information” as recited in claim 1.

In the “Response to Arguments” section on page 21 of the Office Action, the Examiner disagrees with the Examiner’s arguments presented above. Applicant respectfully submits that a user interface is conventionally considered to be a physical means for a user to interact with a system, such as a keyboard of a computer or possibly touch screen display. Kogan et al. does not specifically disclose such a user interface. The claim specifically recites a “user interface” and the Examiner has only identified a “measurement interface” in Figure 1 of Kogan et al., without clearly identifying how this is a “user interface”.

The Examiner concedes that Kogan et al. does not specifically disclose “performance measurement means”, “service-affecting event computation means”, “equipment event measurement means”, “population calculator means” and “dependability metric calculator

means”, but alleges that it would have been obvious to include the above means to the system disclosed by Kogan et al. to perform the functionality. For at least the reasons discussed above, Applicant submits that Kogan et al. does not disclose all the functionality that each of the “means” is configured to provide, and as such, Applicant submits that it would not be obvious to provide the means to implement a functionality that is not disclosed.

Furthermore, Applicant submits that what is disclosed in Kogan et al. is a general definition of Outage Measurement Requirements for Packet Networks that identifies Measurement Methodology (Section 5), Data Definition and Collection (Section 6) and Configuration and Management (Section 7), but does not describe the level of detail described in the present application and claimed in the claims. Applicant submits that even if there is some similarity between the general teachings of Kogan et al. and the claims of the present application, there may be many ways in which the disclosure of Kogan et al. may be implemented and it is improper to suggest that the manner recited in the present claims would be an obvious implementation without further evidence of prior art to that effect.

For at least the above reasons, Applicant submits that there are differences between what is disclosed in the combination of Kogan et al. and Purpura and what is disclosed in claim 1 resulting in a clear lack of at least one limitation in the combination of Kogan et al. and Purpura that is alleged to correspond to the limitations recited in claim 1. Furthermore, the Examiner has not provided a suitable reason why the missing limitations would be obvious to one skilled in the art. Therefore, Applicant submits that there are differences between the cited art and claim 1 of the present application that demonstrate that claim 1 of the present application patentably distinguishes over the combination of references.

Reason to Combine

Once the scope of the prior art is ascertained, the content of the prior art must be properly combined. An obviousness inquiry requires review of a number of factors, including the background knowledge possessed by a person having ordinary skill in the art, to determine whether there was an apparent reason to combine the elements of the prior art in the fashion claimed by the present invention. For the Patent Office to combine references in support of an

obviousness rejection, the Patent Office must identify a reason why a person of ordinary skill in the art would have combined the references *KSR Int'l v. Teleflex, Inc.*, No. 04-1350, slip op. at 14 (U.S., Apr. 30, 2007), Id. at 15. Even if the Patent Office is able to articulate and support a suggestion to combine the references, it is impermissible to pick and choose elements from the prior art while using the application as a template.

Applicant submits that there is no suggestion of a desirability of the claimed invention in any of the references that would serve as a reason for one skilled in the art to combine the collection of references identified by the Examiner. On the contrary, Applicant submits that there are several reasons that the references would not be considered suitable for combining, as will be discussed in detail below.

Kogan et al. does not disclose performance measurement means for measuring performance parameters between a first location and a second location, as conceded by the Examiner. Kogan et al. suggests “measurement of element internals on a basis of individual components such as a card, interface and CPU” (in the paragraph entitled “Accuracy” at the bottom of page 4). Such measurement may bring failure events to light. An example of a failure event is defined on page 7 as utilization of a CPU above a threshold of 95%. There is no suggestion or explicit disclosure in Kogan et al. of performing “performance measurements between a first location and a second location” to determined failure events. Loss of a link, for example, is indicated to be determined based on Loss of Signal in a router, not measurement of performance parameters between first and second locations (page 4, line 9 of Kogan et al.).

In the “Response to Arguments” section on page 22 of the Office Action, the Examiner disagrees with the Examiner’s arguments presented above. The Examiner states that “As shown in Fig. 1 of Kogan et al., the communication such as failure report is being presented between two devices. Furthermore, Purpura in paragraph [0021] discloses the traffic control function in communication between the two devices. Combining the two references is possible for the fact that failure events report of Kogan et al. can be used in traffic control management”. Firstly, a failure report present between two devices does not equate to performing performance measurements between two devices. Reporting is not the same as measuring. Furthermore, as recited on page 5 of Kogan et al. at the beginning of section 5.2, “an agent performs outage

measurements within individual elements”, not between locations. Secondly, there is no strict disclosure that traffic control management disclosed in Purpura includes measuring performance parameters between locations. Even if it were to be considered that Purpura does disclose measuring performance parameters between locations in the form of traffic control management, which Applicant does not concede, as described below the fact the Kogan et al. teaches away from this concept precludes a proper reason to combine Kogan et al. and Purpura.

Kogan et al. discloses on page 6 second paragraph that “Each measurement agent operates independently. This differs from the peer-to-peer measurement method shown in Figure 3, which requires two agents to run on separate elements with coordination elements”. Therefore, Kogan et al. does not measure performance parameters between a first location and a second location, for example as described on page 8, lines 6 to 9 and page 12, lines 4 to 25 of the present application and as recited in claim 8 of the present application. Applicant submits that since Kogan et al. does not disclose measuring performance parameters between a first location and a second location, but that each measurement agent operates independently, Kogan et al. teaches away from measuring performance parameters between two locations. Therefore, even if Purpura discloses measuring performance parameters between two locations, which Applicant does not concede, Kogan et al. teaches away from measuring performance parameters between two locations. Applicant submits that this is a reason that one skilled in the art would not combine Purpura with Kogan et al. in the manner alleged by the Examiner.

In addition, as Purpura and Kogan et al. do not operate in the same manner regarding measuring of performance parameters, at least if Purpura operates as alleged by the Examiner, which Applicant does not concede is correct, Applicant submits that the proposed modification of the references resulting from the combining of the references suggested by the Examiner would change the principle of operation of either Purpura or Kogan et al., as the two references operate in two different manners. Applicant submits that this is another reason that one skilled in the art would not combine Purpura with Kogan et al. in the manner alleged by the Examiner.

For at least the above reasons, Applicant submits that the Examiner has failed to provide a suitable reason for combining the references.

In view of the foregoing, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness and that claim 1 of the present application is patentable over Kogan et al. and Purpura. Applicant respectfully requests the Examiner reconsider and withdraw the obviousness rejection of claim 1.

Claim 20 is an independent method claim that substantially corresponds to the subject matter of claim 1. Claim 20 patentably distinguishes over the combination of Kogan et al. and Purpura for at least the same reasons as discussed above in the response to the rejection of claim 1.

Claims 2 to 11 and 14 to 19, 21 to 26 and 28

Claims 2 to 11 and 14 to 19, 21 to 26 and 28, either directly or indirectly, depend on claim 1 or claim 20. For at least the reasons discussed above with regard to claim 1, Applicant submits that claims 2 to 11, 14 to 19, 21 to 26 and 28 patentably distinguish over Kogan et al. and Purpura.

Claim 29

Amended claim 29 is a system claim that recites a communications network capable of operating a dependability measurement system including a plurality of network elements having some of the functionality that is disclosed in claim 1, an operational service system having a remainder of the functionality that is disclosed in claim 1 and communication links that facilitate communication between the network elements and an operation service system. Claim 29 recites similar subject matter to claim 1. Applicant submits that claim 29 patentably distinguishes over Kogan et al. and Purpura for at least the same reasons as discussed above with regard to claim 1.

Claim 30

Claim 30 is a computer readable medium claim that recites a “computer readable medium having computer readable program code means embodied therein for execution by a computer processor for operating an operational service system of a dependability measurement system”. Applicant submits that the claim recites “code means for interfacing with network elements that measure point-to-point performance parameters along a service path between at least two

locations to determine an occurrence of a network event and collect and store network event information” and “code means for interfacing with network elements that monitor individual network elements for an occurrence of a network element event and collect and store network element event information”. While it may be considered that Kogan et al. discloses the second limitation, which Applicant does not concede, Kogan et al. does not suggest or disclose the first limitation, as page 6, second paragraph of Kogan et al. specifically discloses that “Each measurement agent operates independently. This differs from the peer-to-peer measurement method shown in Figure 3, which requires two agents to run on separate elements with coordination elements”. The first limitation is contrary to the disclosure of operation of the system of Kogan et al. For reasons discussed above in the response to the rejection of claim 1, Applicant submits that Purpura is insufficient to remedy the missing elements of claim 30 and there is a lack of a suitable reason for combining Kogan et al. and Purpura.

Claim 31

Claim 31 is a computer readable medium claim that recites a “computer readable medium having computer readable program code means embodied therein for execution by a computer processor for use in a network element as part of a dependability measurement system”. Applicant submits that the claim recites “code means for measuring point-to-point performance parameters along a service path between at least two locations to determine an occurrence of a network event” and “code means for monitoring the network element for an occurrence of a network element event”. While it may be considered that Kogan et al. discloses the second limitation, which Applicant does not concede, Kogan et al. does not suggest or disclose the first limitation, as page 6, second paragraph of Kogan et al. specifically discloses that “Each measurement agent operates independently. This differs from the peer-to-peer measurement method shown in Figure 3, which requires two agents to run on separate elements with coordination elements”. The first limitation is contrary to the disclosure of operation of the system of Kogan et al. For reasons discussed above in the response to the rejection of claim 1, Applicant submits that Purpura is insufficient to remedy the missing elements of claim 31 and there is a lack of a suitable reason for combining Kogan et al. and Purpura.

For at least the above reasons, Applicant submits that claims 29, 30 and 31 patentably distinguish over the combination of Kogan et al. and Purpura, and respectfully requests that the Examiner reconsider and withdraw the obviousness rejection of these claims.

Claim 5

The Examiner has rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Kogan et al. and Tanaka et al. (U.S. Patent Publication No. 20010053130).

Claim 5 is dependent on claim 1. Therefore, it is assumed that the rejection should be further in view of Purpura, as Purpura is utilized by the Examiner in the rejection of claim 1. However, as claim 1 patentably distinguishes over Kogan et al. and Purpura for at least the reasons provided above in the discussion of the rejection of claim 1, claim 5 should be allowable as well. Applicant respectfully submits that the combination of Kogan et al. and Purpura does not teach all the limitations recited in claim 1 as alleged by the Examiner. Without all the limitations of claim 1 being disclosed by Kogan et al., Applicant submits that there are differences between the cited art and the claims of the present application that demonstrate that claim 5 patentably distinguishes over the combination of references.

Applicant does not concede that Tanaka et al. discloses the additional limitations referred to by the Examiner.


Applicant does not concede that the Examiner has met the burden of identifying a reason why a person of ordinary skill in the art would have sought to combine the respective teachings of the applied references of Kogan et al., Purpura and Tanaka et al., as required by KSR.

For at least the above reasons, Applicant submits that claim 5 patentably distinguishes over Kogan et al., Purpura and Tanaka et al. and respectfully requests the Examiner reconsider and withdraw the obviousness rejection of claim 5.

In view of the foregoing, early favourable consideration of this application is earnestly solicited.

Respectfully submitted,

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